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Previous research studies were reviewed, and hypotheses relating to educational aspiration and occupational choice were developed. Information on educational aspirations and expectations was then obtained from a random sample of students enrolled in 1964-65 in 30 rural Washington high schools. Farm versus non-farm student differences were examined with respect to social, economic, and cultural factors. Farm boys had higher aspirations than non-farm boys, while aspirations of farm and non-farm girls did not differ significantly. Both findings contradicted prior research findings. The educational aspirations of farm boys appeared to be less realistic than those of non-farm boys. The results indicated that the traditionally conservative attitudes of the farm population toward higher education have changed. (JH)

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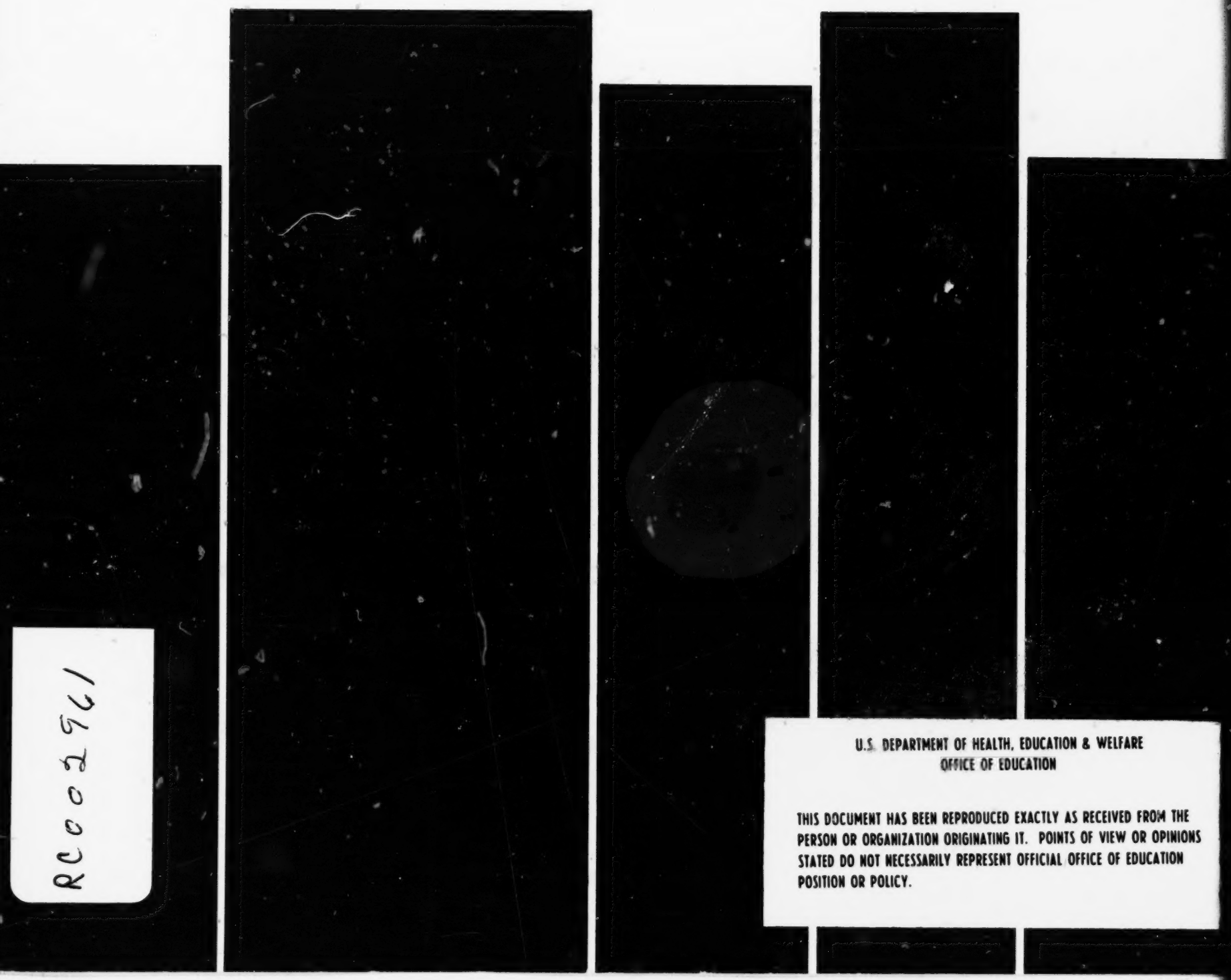

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Methodological details and additional substantive data are available on request. Write to the Department of Rural Sociology, Washington State University, Pullman, Washington 99163.

EDUCATIONAL ASPIRATIONS AND EXPECTATIONS OF STUDENTS IN RURAL WASHINGTON HIGH SCHOOLS

WALTER L. SLOCUM

INTRODUCTION

This report presents information obtained from students who were enrolled in 1964-65 as sophomores, juniors and seniors in a random sample of 30 rural Washington high schools. The basic source of information was a questionnaire administered to more than 3,600 students. Supplementary information was obtained from nearly 1,000 students by means of personal interviews. In addition, some information about most of those who were interviewed was obtained from counselors and parents.

The study was focused on factors associated with the level of educational aspirations and expectations of farm boys and girls.

Background

It is well known that we live in a period of rapid change, but it is less well known that the labor requirements of American agriculture have been transformed over the past half century, especially since World War II. The number of farmers and farm laborers declined from a peak of 10.3 million in 1910 to an estimated 4.9 million in 1963. The exodus from farms continues. Preliminary reports for 1966 indicate a 20% decline since 1959 in the number of farms. It appears that further migration from farms is in prospect. Walter R. Butcher has said that elimination of underemployment among farm workers and full adoption of presently available technology would reduce full-time farm employment needs to about 1 million (6).

Most of those who have left agricultural employment have sought to enter nonfarm occupations. Many have moved to cities, while others have remained in rural areas. The farm-to-city migrants have tended to enter the urban labor force near the bottom of the occupational status ladder and to rise little, if at all.

A major barrier to upward occupational mobility confronting many migrants from farms has been their lack of education; nearly all well-paid urban occupations now require a high level of education both for entry and for promotion.

The employment outlook in agricultural occupations is such that most farm boys and girls will have to migrate from their farm homes and communities when they reach maturity. It is clear that the chances of farm-to-city migrants for successful occupational careers would be enhanced by a high level of educational achievements. Even those who remain in farming will need a great deal of technical and business education if they are to succeed in the competitive commercial agriculture of tomorrow.

The Problem

It seems clear that a very substantial increase in the educational accomplishments of farm-reared youths is urgently needed. However, evidence from many studies, some of which are cited below, indicates that the educational aspirations of farm boys and girls usually tend to be relatively lower than those of nonfarm boys and girls.

To say that this phenomenon is explained by residence on farms is not very helpful to teachers, counselors or others who may be interested in attempting to raise the level of the educational aspirations of students who live on farms. Consequently, the research problem is to identify other explanatory factors related to the low educational aspirations of farm youths. Such information may provide a more useful basis for social action to raise levels of aspiration and subsequent achievement.

Theoretical Frame of Reference

The approach to the problem was largely determined by the theoretical orientation of the author. The frame of reference is sociological. The student is viewed as a decision-maker who is a member of a number of social systems, some of which are so important that their values and norms influence his preferences and behavior. These *reference groups* include his family, his friends, and his school.

It is also postulated that the decisions of a student are influenced by acceptance of particular persons as role models, and that he is also influenced by overt recognition of his achievements and potential by parents, teachers and other persons who are significant to him.

The decisions of a student are also conceptualized as potentially influenced by his self-concept. This, in turn, is a product of his experiences, including his evaluation of the esteem with which significant others regard him.

Finally, educational and occupational decisions are considered to be influenced by perceptions of external circumstances. Examples are the occupational opportunity structure and the availability of financial support for education.

Review of Related Research

Educational aspirations

The factors associated with educational aspirations have been studied often since 1950. A 1965 bibliography published in November, 1965, lists 124 titles of journal articles, books and other relevant publications (13). Much of this literature has been reviewed elsewhere by the author (20).

It is clear from these studies that the level of the educational aspirations of high school students is rising.

Rising aspiration levels are, of course, related to the record of outstanding educational progress in the United States, especially that which has accompanied the spectacular industrial developments and urban growth of the past 25 years. Scientific and technological developments require new and more sophisticated occupational skills. These are more easily learned by well educated workers. Consequently, educational requirements for entry into many occupations are rising sharply. Furthermore, better-educated workers tend to be preferred for promotion.

The relationship of educational achievements to chances for occupational success has been communicated to the American people in many ways. There is convincing evidence that the message has been widely heard and understood. In fact, data from a nationwide survey show that many parents regard a college education as "the birthright of every American boy and girl" (7).

College and university enrollments are increasing very rapidly. In 1967 more than 6,500,000 students were enrolled in college. This can be contrasted to 3,610,000 in 1960 and 2,659,000 in 1950. Much of the current trend is due to rising expectations rather than to population increase alone, although college enrollments are greatly affected by the fact that the products of the post World War II "baby boom" are now reaching college age.

There are indications that this trend will continue, encompassing an even larger proportion of the population of college age. In a 1954-55 study of Washington high school seniors, 38% of the boys and 35% of the girls intended to enroll at a college or university the next fall (21). In 1960, a nationwide study of nearly a half million high school students (*Project Talent*) was made. In this sample, 53% of the senior boys and 46% of the senior girls planned to enter college immediately after graduation. However, 73% and 58%, respectively, planned to attend college eventually. However, only 53% of the boys and 33% of the girls expected to graduate from college (9).

These figures refer to high school students as a whole. How do rural and urban youth compare?

Since a college education is becoming a prerequisite for more and more occupational careers, desire to attend such an institution seems the best criterion for measuring high educational aspirations. There are other educational possibilities beyond high school, of course. But most of the studies examined compared only the college-bound with those who intended to enter the labor market, marry, or join the armed forces immediately.

In the 1954-55 Washington study already cited, more senior farm than nonfarm students planned post high school enrollment in schools other than a college, more farm students planned to work and more were uncertain about future plans (21). Donald J. Bogue ranked median years of education of major occupational categories for the U.S. in 1950 and found that farm managers, owners and laborers were very close to the bottom with an average of less than 9 years (3). Lower educational aspirations appear to be reflected in the high dropout rates among youths with fathers in these occupations. Between January and October of 1961, 350,000 young people over age 16 left elementary or high school before graduation. A larger proportion were from rural than from urban areas.

In the 1954-55 Washington study, 29% of the farm boys planned to enroll in college immediately, while 40% of their nonfarm classmates had similar plans. For girls, the difference was less, 35% for farm girls and 36% for nonfarm girls (21).

A special nationwide sample survey made by the USDA and the Census Bureau reported "About half of all nonfarm high school seniors, but only one-third of farm seniors in October, 1959, reported definite plans to attend college in 1960" (8).

A study in 1962 among juniors and seniors in 24 rural Illinois high schools disclosed differences between farm and nonfarm students in rural communities (15). Lindstrom found that 42.6% of farm boys but 48.2% of the nonfarm boys planned to go to college. Of the girls, 30.6% farm and 34.9% nonfarm were college-bound.

Several others (4,12,17) reported lower educational aspirations among farm boys than among urban boys. The relationship between educational plans and actual college enrollment displays even sharper rural-urban differences.

A nationwide study found that roughly twice as many 1960 high school graduates from families headed by white-collar workers (63%) as from families headed by farmers or farm laborers (28%) were enrolled in college in 1960 (8).

A review of a number of studies led A. O. Haller to comment on the influence of plans to farm:

> Once formed, the plan regarding farming appears to have important consequences for the rest of the boy's career. Plans to farm greatly influence the process of seeking information about nonfarm occupations, levels of nonfarm occupational aspirations, and post high school educational plans. . . . Evidence for this is quite conclusive. In all studies in which the hypothesis has been tested, boys who plan to farm had much lower levels of educational aspirations than farm-reared boys who planned nonfarm careers (11).

Occupational aspirations and expectations

Most high school students have relatively high occupational aspirations. Expectations tend to be somewhat lower and accomplishments lower still. For instance, of all high school seniors participating in a nationwide survey made in 1960 (*Project Talent*) 62% of the boys and 52% of the girls hoped to enter a professional or technical occupation (9). However, Census data show that only about 15% of employed males and 15% of employed females between the ages of 25 and 29 are in professional and technical occupations. Thus, if hopes are not to be dashed for many young people, the number of jobs in professional or technical occupations will have to increase tremendously.

In *Project Talent,* the most popular field among boys was engineering; 18% wanted to enter this occupation. Among seniors headed for college this rose to 23%, with business and commerce following at 14%.

Asked to name both their expected field of work and their preferred field, about the same percentage of senior boys in *Project Talent* reported engineering for both. About

7% expected to be skilled workers and about 6% preferred such an occupation. Another 6% expected to be school teachers but only 5% preferred it. Approximately 4% expected to be officers in the military service; 5% preferred this career. Not quite 4% wanted to farm; slightly over 4% expected to do so.

Careers appealing to the most girls in *Project Talent* included secretary, office clerk or typist, which together were chosen by 23% of the female respondents. Teaching ranked second (14.6%) and nursing third (11.2%) with homemaking fourth (9.6%).

In naming their expectations, secretary, office clerk or typist were occupations which 30.3% of the girls actually expected to attain. Nearly 17% expected to teach in either elementary or secondary schools, while nursing lost a few with only 10.1% expecting to enter this profession. Expectations were also greater than aspirations for homemaking (10.4% compared to 9.6%). Among senior girls planning to attend college, education was the most frequently named field of study (20%). Business and commerce came second (16.9%) and health professions third (16.1%).

The 1954-55 Washington study of high school seniors previously cited reported that 36% of all students in the sample wished to enter a professional occupation. Another 14.4 desired managerial jobs and 19.5% hoped to have clerical work (21). Thus, close to three-fourths wanted occupations classified in the upper half of the occupational status hierarchy. Only 5.8% aspired to a career in agriculture and 7.6% wished to become skilled craftsmen or foremen.

About 37% of the 1954-55 Washington respondents expected to enter an occupation other than the one they preferred. Seniors planning to attend schools below the college level were most likely to feel sure of achieving their occupational aspirations. The college-bound ranked second in degree of certainty.

The greatest gap between occupational aspirations and expectations occurred among those who were uncertain about their plans and those who planned immediate marriage. The expected careers of the latter categories ranked slightly lower in the prestige scale, but approximately two-thirds of both sexes expected to pursue relatively high status occupations (21). The choices of the girls were mostly the middle status occupations. Boys checked careers that extend over the entire range of occupational prestige. Very few girls aspired to professional occupations other than teaching.

But what about farm youth? Do their occupational aspirations and expectations differ from this pronounced trend toward professionalism? There appear to be two main lines of thought about this. After a review of the literature, Haller reported that occupational aspirations, expectations and attainments are all lower for rural-farm than for urban youth (12: p. 4). Kuvlesky takes issue with this viewpoint and argues that farm youths do not have lower occupational aspirations if farming is classified as a high status occupation, which he feels is defensible in view of the relative difficulty of getting established in farming (14).

Several studies have shown that people reared on farms are much less likely to succeed in urban occupations than are those reared in cities (1,2,5,10,16). One of these studies, reported in 1956, showed that the farm-reared workers in urban areas were more highly concentrated in the manual labor jobs and much less so in professional and technical occupations than were the urban-reared people (10). It is my belief that most farm-reared men who have moved up the occupational status ladder in the past 25 years have obtained college degrees.

Conclusions from the research reviewed

With the exception of Kuvlesky, investigators apparently agree that relatively low educational aspirations and expectations are characteristic of rural students, particularly those who live on farms and especially farm boys who plan to farm. Furthermore, low occupational achievements evidently have been characteristic of most farm boys who have entered the urban labor force.

Objectives

The principal objective was to ascertain the nature and extent of influence of school factors on educational aspirations and expectations of farm boys and girls. The study focused on factors over which the school has some control. However, it was recognized at the outset that it would be essential to appraise the extent to which friendships and selected aspects of the family life of farm youths tend to reinforce or negate school influences. The research was designed to permit farm vs. rural nonfarm comparisons with respect to the influences of the foregoing factors.

Occupational choice and educational aspirations and expectations are closely related. Therefore, a supplementary objective was to learn if farm and nonfarm youths differ in selected aspects of occupational planning. If so, these planning differences might help explain farm vs. rural nonfarm differences in educational aspirations and expectations.

Hypotheses

The hypotheses that guided the formulation of specific questions were drawn from the theoretical frame of reference specified above and from the findings of previous research at Washington State University and elsewhere. Some of the following hypotheses were included in the project proposal. Others were developed during the first year of the study.

Educational aspirations and expectations

Hypotheses relating to the influence on educational aspirations and expectations of reference group norms, interpersonal relationships, and self-concept follow:

Family Circumstances and Norms

1. *The educational aspirations and expectations of students tend to be positively related to the economic and social status of their parents, e.g., those from wealthy families will tend to have higher aspirations and expectations than those from poor families.*
2. *Students from farm families tend to place less importance than nonfarm students on the academic aspects of education and more importance on the vocational aspects.*

3. *The educational aspirations and expectations of farm students tend to be inversely related to degree of dependence of the parental family on agriculture, e.g., those from full-time farms will tend to have lower aspirations than those from part-time farms.*
4. *Students from families with an "intellectual tradition" tend to have higher educational aspirations and expectations than other students.*

Peer Group Culture

5. *Students who belong to and identify themselves with specific peer groups will tend to have similar educational aspirations and expectations, e.g., farm students who associate chiefly with other farm students in school-related groups and activities tend to have lower educational aspirations and expectations than other farm students.*

School Experiences and Contacts

6. *Students who have discussed educational or occupational plans with teachers and/or counselors tend to have higher educational aspirations and expectations than other students.*
7. *Students who have received special recognition and/or encouragement from at least one teacher tend to have higher educational aspirations and expectations than other students.*
8. *Students who acknowledge that a school counselor has influenced their plans tend to have higher educational aspirations and expectations than other students.*
9. *The pattern of school subjects chosen by a student affects his educational expectations, e.g., students who have taken many college preparatory courses will be more likely than others to have college expectations.*
10. *Participation in vocational agriculture courses in high school tends to be associated with low educational aspirations and expectations on the part of boys.*
11. *The limited educational resources of the small rural high school tend to be associated with low educational aspirations and expectations of students attending those high schools.*

Personal Factors

12. *Students with high school grades will have higher educational aspirations and expectations than students with lower school grades.*
13. *Among students with high school grades, those from farms will tend to have lower educational aspirations and expectations than others.*
14. *Students with a high self-evaluation of academic ability will tend to have higher educational aspirations and expectations than other students.*

Occupational choice

Hypotheses relating to occupational choice follow:

Career Commitments of Farm Boys to Farming

15. *Farm boys who are planning to farm tend to have lower educational aspirations and expectations than other farm youths.*
16. *Farm boys who plan to farm place less importance on the academic aspects of education than farm boys who do not plan to farm.*
17. *Farm boys who do not plan to farm about equal nonfarm boys in importance placed on academic and vocational subjects.*

Work Plans of Farm Girls

18. *Farm girls who plan to work in addition to or instead of homemaking place as much importance on academic and vocational subjects as do nonfarm girls who plan to work.*

Farm Residence and Occupational Choice

19. *Compared to their rural nonfarm peers, farm students tend to be retarded in stage of occupational choice attained, e.g., relatively fewer farm students will have definitely chosen an occupation.*
20. *Farm students are less likely than rural nonfarm students to have appraised the chance of attaining declared occupational objectives realistically; e.g., those who prefer a high status occupation tend to be less aware than rural nonfarm students of the requirements for entry, such as education.*

Parental vs. School Assistance in Occupational Planning

21. *Both farm and nonfarm students who receive little help from their parents in occupational planning will turn to school sources for assistance.*
22. *Farm students tend to use vocational guidance and counseling less than rural nonfarm students.*

METHODS

The basic data for the study were obtained by questionnaires filled out in their classrooms by students in 30 randomly selected rural high schools in Washington state in 1964-65. About 3,260 provided data on educational aspirations. This information was supplemented by personal interviews with a sample of 992 students, 34% of whom lived on farms. Counselors, administrators and teachers rated about 400 of the students in the interview sample with respect to scholastic ability and type of work best suited for. In addition, parents of the majority of students in the interview sample provided information, in response to a mail questionnaire, concerning their 1964 family incomes, their educational values and their aspirations for their children's education.

Names and addresses of students and other respondents were obtained. Special precautions were taken to keep names and other personal information confidential. These procedures were explained in advance to school authorities, student respondents and others. No unfavorable reactions to

the study by students, parents or others were reported to the author.

The data in this report were obtained from and about respondents who answered questions concerning the control variables of sex and residence as well as the specific questions under discussion. Nonresponse ranged from nearly zero to as much as 44% for some questions near the end of the questionnaire.

The interview sample includes roughly proportional numbers of farm and nonfarm students. The two residential segments of this sample are statistically matched with respect to sex, grade in school, and scholastic performance as reflected by school grades.

Cooperating schools were sent a mimeographed narrative report on approximately a fourth of the questions in the classroom questionnaires (22). This was accompanied by a computer print-out of comparable data so school officials could compare the distribution of responses made by their students with those made by the combined total in the 30 participating schools.

RESULTS

In this part of the report we will first present descriptive data to give the reader an overview of farm vs. nonfarm differences in respect to the major factors examined in testing the hypotheses. After this we will review the results of tests of hypotheses concerning the association of social, economic, and cultural factors with levels of educational aspirations and expectations. The final section presents results of the tests of hypotheses concerning occupational choice.

Farm vs. Nonfarm Comparisons

Control variables

Residence. About a third of the respondents lived on farms; 215 or 6.1% did not provide information about residence. Residence is, of course, of central importance in this analysis and this variable was controlled in most of the detailed analyses.

Sex. Slightly more than half (51.6%) of the respondents were boys. Among students who reported that they lived on farms, 52% were boys.

Previous studies by the author and others have revealed that the educational and occupational aspirations of boys and girls often differ substantially. Consequently, data for each sex will be analyzed separately.

Educational aspirations and expectations

As noted earlier, many previous studies, including studies in Washington, have found that significantly lower proportions of farm than nonfarm high school students aspire or expect to attend college. The difference in educational aspiration levels has been somewhat smaller in Washington than in some other areas (11 percentage points for boys planning to go to college in 1955-56 compared to 17 percentage points in a 1960 nationwide study).

We were very surprised to find that the present study did not confirm previous findings. Significantly more farm boys (80.2%) than nonfarm boys (72.3%) aspired to attend college. The proportions of farm and nonfarm girls with college aspirations were roughly equal (67.2% and 66.7% respectively). A summary of educational aspirations is in table 1.

The proportions of farm boys with college expectations also tended to be higher than those of nonfarm students: 75.3% of the farm boys compared to 69.0% of the nonfarm boys expected to attend college. The comparable percentages for girls were 62.8 for those from farms and 58.1 for others. Educational expectations are summarized in table 2.

The possible reasons for these unexpected results and their implications will be discussed later. However, in the opinion of the author, the apparent reversal of the direction of residential influences on educational aspirations and expectations does not require any material alteration in the analytical design. As I said earlier, residence is not a very useful

Table 1. Educational aspirations of rural high school students by sex and residence

Educational Aspirations	Boys			Girls		
	Total	Farm	Non-farm	Total	Farm	Non-farm
Graduate Work	28.9	27.7	29.5	19.2	20.3	18.7
Bachelor's Degree	26.2	29.5	24.5	24.2	26.4	23.1
Some College	19.9	23.1	18.4	23.5	20.5	24.9
High School Only	25.0	19.8	27.7	33.1	32.7	33.2
Total Per Cent[a]	100.0	100.1	100.1	100.0	99.9	99.9
Number	1640	550	1090	1605	507	1098

Statistical test of farm vs. nonfarm differences

	Boys	Girls
Chi-square	24.0	9.2
d. f.	0	9
P	<.01	>.30

[a] Because of rounding, some columns do not total exactly 100%.

Table 2. Educational expectations of rural high school students by sex and residence

Educational Expectation	Boys			Girls		
	Total	Farm	Non-farm	Total	Farm	Non-farm
Graduate Work	17.7	15.7	18.6	9.1	8.1	9.5
Bachelor's Degree	25.8	29.9	23.7	20.4	24.0	18.8
Some College	27.6	29.7	26.7	30.1	30.7	29.9
High School Only	28.8	24.7	31.0	40.4	37.2	41.9
Total Per cent	99.9	100.0	100.0	100.0	100.0	100.1
Number	1573	528	1045	1556	495	1061

Statistical test of farm vs. nonfarm differences

	Boys	Girls
Chi-square	18.6	13.7
d. f.	9	9
P	>.05	>.20

explanatory variable in developing social action. The basic design of the analysis provided for controlling residence while testing the influence of other variables suggested by sociological theory and research. This design will be maintained in the analysis to follow.

Occupational preferences and expectations

In an attempt to ascertain career preferences, students were asked "What occupation do you think you would like best when you are 30 years old?"

In their responses, 59.6% of the boys and 45.4% of the girls who provided this information named a professional or technical occupation.[2] (See table 3.) Farm and nonfarm girls had a similar pattern of preferences but fewer farm than nonfarm boys named a professional occupation, probably because more farm boys (19%) named farming.

Among the boys, the most popular professional occupation was engineering (12.7%) followed by teaching (9.1%) and forestry and conservation work (7.3%). Among the girls, teaching (15.5%) was in first place followed by nursing (9.3%) and social work (2.3%).

The expectations of many students were different from their preferences. However, almost half of the respondents (46.3% of the boys and 47.0% of the girls) thought they would "probably" or "certainly" be in the occupation listed when they are 30. Residential differences in certainty of occupational expectations were slight.

Many youths enter the world of work as full-time workers in occupations that are different from those they would prefer as their first choice. To find out what entry occupations were anticipated, we asked the students "What is the job that you think you will actually have when you start to work full-time?" The responses indicate that many fewer students expect to start out as professional or technical workers. A rather large proportion (44.1% of the boys and 32.7% of the girls) failed to name a specific entry occupation. (See table 4.)

Among those who named an entry occupation, 46.7% of the boys and 40.7% of the girls named a professional or technical occupation. Residential differences in the proportions choosing a professional or technical occupation were not statistically significant for girls and the differences for the boys were chiefly due to the relatively high proportion (22.9%) of the farm boys who expected to farm.

Socio-economic status of family

Previously, sociologists have found socio-economic status to be associated with aspirations. To provide a basis for evaluating this factor, students were asked for their perceptions of family income or wealth and parents of students in the interview sample were asked to report the level of their 1964 incomes. Table 5 shows the distribution of the responses.

Differences between farm and nonfarm students were negligible. It is interesting to note, however, that a somewhat higher proportion of the boys than of the girls considered their family's economic status to be above the community average.

A rough comparison of the distribution of students' perceptions with the distribution of parents' reports of 1964 income shows no major discrepancies. However, the questions differed so materially that detailed comparisons are not feasible (table 6).

The median incomes of families of boys who were interviewed were $6,600 compared to $6,150 for families of girls. Median incomes of families of farm boys were the same as those of families of all boys. The median incomes of farm girls were higher (but the difference was not statistically significant) than family incomes of all girls.

Table 3. Occupations preferred by rural high school students when they reach age 30, by sex and residence

	Boys			Girls		
Occupation	Total %	Farm %	Non-farm %	Total %	Farm %	Non-farm %
Professional or Technical	59.1	52.5	63.4	45.8	46.1	46.0
Pilot	1.7	1.9	1.7	.....[a]	.....[a]	.....[a]
Architect	1.6	.6	2.3	.1	.....[a]	.2
Artist	1.1	.6	1.5	1.5	.9	1.9
College Professor	.3	.2	.2	.5	.2	.6
Engineer	12.7	11.6	13.6	.4	1.1	.1
Forester	7.3	7.0	7.3	.1	.....[a]	.1
Lawyer	2.9	2.3	3.5	.5	.2	.4
Musician	.6	.2	.8	1.4	1.9	1.1
Natural Scientist	2.2	1.9	2.0	.8	.7	.9
Nurse	.1	.....[a]	.1	9.3	9.8	9.1
Physician or Surgeon	2.3	1.5	2.7	1.0	.9	1.0
Social Worker	.4	.4	.5	2.3	2.9	1.9
Social Scientist	.5	.6	.5	.5	.7	.5
Teacher	9.1	8.7	9.3	15.5	15.5	15.6
Veterinarian	1.6	3.2	.9	.8	.7	.8
Other	14.7	11.8	16.5	11.1	10.6	11.8
Farmer or Farm Manager	8.7	19.0	3.3	.3	.4	.3
Manager, Official, or Proprietor	4.8	4.7	4.6	1.8	1.6	1.9
Clerical	1.6	1.5	1.8	18.8	17.5	19.0
Sales Worker	.8	.2	1.0	.6	.4	.6
Craftsman or Foreman	16.9	15.0	17.9	.8	.4	1.0
Factory Machine Tender or Operative	2.4	1.7	2.7	.2	.4	.1
Housewife	.....[b]	.....[b]	.....[b]	20.6	23.1	19.4
Service Worker	3.1	3.1	2.9	10.7	9.5	11.4
Laborer—Farm	.2	.6	.....[a]	.1	.....[a]	.1
Laborer—Nonfarm	2.2	1.5	2.4	.1	.7	.....[a]
Total Respondents						
Per Cent[c]	99.8	99.8	100.0	99.8	100.1	99.8
Number	1459	473	883	1493	451	982
Per Cent Not Responding	21.6	18.6	22.5	14.2	14.1	13.8

[a] Less than .1%

[b] Not applicable.

[c] Because of rounding, some columns do not total exactly 100%.

[2] Reflecting the tentativeness of occupational decision-making by adolescents, 26% of the boys and 14% of the girls did not name a career choice.

Intellectual orientation of family

A number of indices of the intellectual orientation of students' families were examined. These included reported education of father and mother, a scale of family educational values and some information about education of brothers and sisters.

The educational attainments of fathers were quite high. However, Table 7 shows that fathers of farm boys and girls tended to be somewhat better educated than parents of nonfarm boys and girls ($P<.001$). In fact, 60.9% of the fathers of the farm girls and 54.5% of the fathers of the nonfarm girls had at least a high school education. The comparable percentages for fathers of farm boys and nonfarm boys were 63 and 58.2 respectively.

Table 4. Expected entry occupations of rural high school students by sex and residence

	Boys			Girls		
Occupation	Total %	Farm %	Non-farm %	Total %	Farm %	Non-farm %
Professional or Technical	46.9	41.2	50.5	41.0	41.6	40.0
Pilot	1.3	.9	1.6	.....[a]	.....[a]	.....[a]
Architect	1.3	.3	1.9	.1	.....[a]	.1
Artist	.9	.6	1.1	.9	.5	1.1
College Professor	.4	.3	.2	.4	.3	.5
Engineer	9.3	7.6	10.6	.2	.5	.....[a]
Forester	5.5	5.6	5.3	.....[a]	.....[a]	.....[a]
Lawyer	2.4	2.5	2.6	.3	.....[a]	.1
Musician	.5	.3	.6	.6	.5	.5
Natural Scientist	1.3	1.4	1.1	.1	.....[a]	.1
Nurse	.....[a]	.....[a]	.....[a]	10.4	11.4	9.6
Physician or Surgeon	1.5	1.1	1.8	.8	.3	1.1
Social Worker	.3	.....[a]	.3	1.3	1.9	.9
Social Scientist	.4	.3	.5	.3	.....[a]	.4
Teacher	10.6	10.7	11.0	17.6	18.3	17.3
Veterinarian	1.3	2.3	.6	.6	.3	.8
Other	9.9	7.3	11.3	7.4	7.6	7.5
Farmer or Farm Manager	10.1	21.7	3.2	.1	.3	.....[a]
Manager, Official or Proprietor	3.5	2.5	4.0	1.1	1.1	1.1
Clerical	2.0	1.1	2.4	29.5	27.3	30.7
Sales Worker	1.1	.3	1.6	2.1	1.6	2.4
Craftsman or Foreman	19.3	18.9	19.6	.9	.8	.9
Factory Machine Tender or Operative	4.5	2.8	5.3	.2	.3	.1
Housewife	.....[b]	.....[b]	.....[b]	8.8	11.4	7.5
Service Worker	2.4	2.8	2.3	16.2	15.0	17.0
Laborer — Farm	.9	1.7	.3	.....[a]	.....[a]	.....[a]
Laborer — Nonfarm	9.4	7.0	10.8	.3	.5	.1
Total Respondents						
Per Cent[c]	100.1	100.0	100.0	100.2	99.9	99.8
Number	1038	355	618	1169	367	757
Per Cent Not Responding	44.2	38.9	45.9	32.8	30.1	33.5

[a] Less than .1%
[b] Not applicable.
[c] Because of rounding, some columns do not total exactly 100%.

Table 5. Perceived level of family income by sex and residence

	Boys			Girls		
Perceived Level of Income	Total	Farm	Non-farm	Total	Farm	Non-farm
Above Average	31.9	32.5	31.5	25.8	27.2	25.2
Average	59.6	58.3	60.3	65.1	66.0	64.7
Below Average	8.5	9.2	8.1	9.1	6.8	10.1
Total Per Cent	100.0	100.0	99.9	100.0	100.0	100.0
Number	1640	544	1096	1622	515	1107

Statistical test of farm vs. nonfarm differences

	Boys	Girls
Chi-square	3.31	5.09
d. f.	4	4
P	>.50	>.20

Table 6. Family incomes in 1964 reported by parents of interviewees by sex and residence of students

	Boys		Girls	
Incomes	Total	Farm	Total	Farm
Under $4,000	11.3	15.2	11.5	11.7
$4,000-4,999	6.6	9.8	11.5	8.7
$5,000-5,999	11.3	6.5	14.7	12.6
$6,000-7,499	23.7	20.7	19.9	22.3
$7,500-9,999	24.5	25.0	20.3	21.4
$10,000 or over	22.6	22.8	22.0	23.3
Total Per Cent	100.0	100.0	100.0	100.0
Total n	274	92	286	103
Median	$6,600	$6,600	$6,150	$6,450

Table 7. Father's education by sex and residence of student

	Boys			Girls		
No. Years of School Completed by Father	Total	Farm	Non-farm	Total	Farm	Non-farm
College— 5 or more yrs.	5.5	2.7	6.9	4.1	1.8	5.2
College—4 yrs.	5.1	5.1	5.0	4.3	5.0	4.0
College—1 to 3 yrs.	11.8	15.6	9.9	11.2	13.1	10.3
High School Graduate	37.5	39.6	36.4	37.0	41.0	35.0
High School— 1 to 3 yrs.	14.2	11.6	15.5	17.4	11.9	20.0
Grade School Graduate	20.0	20.6	19.8	20.3	23.0	19.1
Grade School— 1 to 7 yrs.	5.9	4.8	6.4	5.7	4.4	6.4
Total Per Cent	100.0	100.0	99.9	100.0	100.2	100.0
Number	1582	525	1057	1548	505	1043

Statistical test of farm vs. nonfarm differences

	Boys	Girls
Chi-square	27.5	34.1
d. f.	6	6
P	<.001	<.001

Mothers tended to have more education than fathers, a finding consistent with census data. As in the case of education of fathers, most of the mothers of farm boys and girls were quite well educated and like their husbands, they tended to have more education than the mothers of nonfarm boys and girls (table 8).

The percentages of mothers with at least a high school education were 73.7 for farm boys, 71.3 for farm girls, 70.1 for nonfarm boys, and 64.6 for nonfarm girls. These differences were not statistically significant. (The .05 level is used in this study as the cutting point for statistical significance.)

A Guttman-type scale was developed to reflect the student's perceptions of the educational values of his family. Slightly higher proportions of farm boys than of nonfarm boys and of farm girls than of nonfarm girls were classified as having high educational values (table 9), but the differences were not statistically significant.

Almost 15% of the boys and 18.3% of the girls reported that one or more of their brothers or sisters had dropped out of school before graduating from high school (see table 10). Nonfarm boys and girls were somewhat more likely than farm boys and girls to report that one or more siblings had dropped out of school. (These differences were not statistically significant for either sex.)

About a third of the students reported that one or more of their older brothers or sisters had attended college (table 11). Slightly higher proportions of farm boys than of nonfarm boys made this report. Nonfarm girls were a little more likely than farm girls to have collegiate siblings. (Farm vs. nonfarm differences were not statistically significant for either boys or girls.)

Table 8. Mother's education by sex and residence of student

No. Years of School Completed by Mother	Boys			Girls		
	Total	Farm	Non-farm	Total	Farm	Non-farm
College—5 or more yrs.	3.7	3.6	3.7	2.5	2.8	2.3
College—4 yrs.	6.3	8.0	5.5	4.9	5.8	4.5
College—1 to 3 yrs.	12.8	13.7	12.4	12.8	14.7	12.0
High School Graduate	48.5	48.4	48.5	46.5	48.0	45.8
High School—1 to 3 yrs.	15.8	15.0	16.2	19.6	17.3	20.7
Grade School Graduate	10.4	10.3	10.4	11.3	10.1	11.8
Grade School—1 to 7 yrs.	2.5	1.0	3.3	2.4	1.4	2.9
Total Per Cent	100.0	100.0	100.0	100.0	100.1	100.0
Number	1584	525	1059	1572	504	1068

Statistical test of farm vs. nonfarm differences

	Boys	Girls
Chi-square	12.05	9.83
d. f.	6	6
P	>.05	>.10

Discussion of plans with teachers and counselors

Slightly less than half of the students said they had discussed their educational and occupational plans with one or more teachers (table 12). Residential differences between girls were negligible. However, a somewhat higher proportion of farm girls than of farm boys reported that they had

Table 9. Family educational orientation by sex and residence

Educational Orientation	Boys			Girls		
	Total	Farm	Non-farm	Total	Farm	Non-farm
Low	18.0	17.3	18.3	17.8	16.0	18.6
Medium	44.2	43.0	44.7	40.2	38.6	41.0
High	37.8	39.6	36.9	42.0	45.4	40.5
Total Per Cent	100.0	99.9	99.9	100.0	100.0	100.1
Number	1373	462	911	1373	450	923

Statistical test of farm vs. nonfarm differences

	Boys	Girls
Chi-square	5.58	6.52
d. f.	6	6
P	>.30	>.30

Table 10. Number of brothers and sisters who dropped out of school by sex and residence

Number	Boys			Girls		
	Total	Farm	Non-farm	Total	Farm	Non-farm
None	85.2	85.7	84.9	81.7	86.7	79.4
1	8.5	9.0	8.2	11.2	9.3	12.1
2 or more	6.4	5.4	7.0	6.9	4.0	8.5
Total Per Cent	100.1	100.1	100.1	99.8	100.0	100.0
Number	1523	502	1021	1529	482	1047

Statistical test of farm vs. nonfarm differences

	Boys	Girls
Chi-square	11.3	12.1
d. f.	9	9
P	>.20	>.20

Table 11. Number of brothers and sisters who had attended college by sex and residence

Number	Boys			Girls		
	Total	Farm	Non-farm	Total	Farm	Non-farm
None	66.9	64.2	68.3	68.1	63.2	70.4
1	22.0	22.8	21.5	22.4	25.2	21.1
2 or more	11.1	13.0	10.2	9.7	11.6	8.5
Total Per Cent	100.0	100.0	100.0	100.2	100.0	100.0
Number	1534	508	1026	1531	484	1047

Statistical test of farm vs. nonfarm differences

	Boys	Girls
Chi-square	8.99	12.14
d. f.	9	9
P	>.30	>.20

discussed their plans with teachers. The difference, although small, was statistically significant.

A substantial number of students (17.7% of the total) were in schools that did not have a counselor. Slightly less than half (48.5%) of the boys and four out of ten (41.5%) of the girls who had access to a counselor had discussed their plans with a counselor (table 13). Slightly fewer farm boys but slightly more farm girls than their nonfarm counterparts had discussed their plans with a counselor. However, the differences were not statistically significant.

Reported influence of teachers and counselors

Well over half of the students said that teachers had not influenced their educational or occupational plans.

Farm students of both sexes were somewhat more likely than their nonfarm counterparts to report that teachers had influenced their educational or occupational plans (table 14). However, the residential differences were not statistically significant.

In response to a question, a little over a third indicated that one or more teachers had encouraged them to go to college; more farm students than nonfarm students reported that teachers had encouraged them to go to college. These residential differences were statistically significant for boys but not for girls (table 15).

Table 12. Students' reports of discussion of educational and occupational plans with teachers by sex and residence

Extent of Discussion	Boys			Girls		
	Total	Farm	Non-farm	Total	Farm	Non-farm
None	51.8	48.3	53.5	51.3	51.0	51.4
Some	44.5	47.0	43.2	45.0	44.6	45.3
Very Much	3.7	4.7	3.3	3.7	4.5	3.3
Total Per Cent	100.0	100.0	100.0	100.0	100.1	100.0
Number	1661	555	1106	1625	516	1109

Statistical test of farm vs. nonfarm differences

	Boys	Girls
Chi-square	5.19	1.25
d. f.	2	2
P	>.05	>.50

Table 13. Students' reports of discussion of plans with a school counselor by sex and residence

Extent of Discussion	Boys			Girls		
	Total	Farm	Non-farm	Total	Farm	Non-farm
None	51.5	54.9	49.9	59.5	57.8	60.2
Some	44.6	41.6	46.2	34.2	34.8	33.9
Very Much	3.8	3.5	3.9	6.4	7.4	5.9
Total Per Cent	99.9	100.0	100.0	100.1	100.0	100.0
Number	1364	452	912	1221	365	856

Statistical test of farm vs. nonfarm differences

	Boys	Girls
Chi-square	6.74	.97
d. f.	2	2
P	<.05	>.70

In schools that provided counseling services, nearly 6 out of 10 students denied that counselors had influenced their educational or occupational planning (table 16). Residential differences were not definitive. A slightly higher proportion of farm than of nonfarm girls and a slightly higher proportion of nonfarm than of farm boys reported that their educational or occupational plans had been influenced by a school counselor. These residential differences are statistically significant for boys but not for girls.

Table 14. Students' reports of teachers' influence by sex and residence

Influence	Boys			Girls		
	Total	Farm	Non-farm	Total	Farm	Non-farm
None	57.1	54.1	58.6	59.7	58.3	60.4
Some	35.3	38.5	33.8	32.2	33.3	31.7
Very Much	7.5	7.4	7.6	8.1	8.4	7.9
Total Per Cent	99.9	100.0	100.0	100.0	100.0	100.0
Number	1621	543	1078	1589	511	1078

Statistical test of farm vs. nonfarm differences

	Boys	Girls
Chi-square	3.6	.626
d. f.	2	2
P	>.20	>.70

Table 15. Students' reports of teachers' encouragement to go to college by sex and residence

Teacher Encouragement Regarding College	Boys			Girls		
	Total	Farm	Non-farm	Total	Farm	Non-farm
Encouraged	34.0	37.7	32.0	35.0	37.0	34.1
Discouraged	1.9	1.0	2.4	1.2	1.2	1.2
Had no effect	64.1	61.3	65.5	63.7	61.8	64.6
Total Per Cent	100.0	100.0	99.9	99.9	100.0	99.9
Number	1558	525	1033	1542	487	1055

Statistical test of farm vs. nonfarm differences

	Boys	Girls
Chi-square	8.15	1.19
d. f.	2	2
P	<.02	>.50

Table 16. Students' reports of counselor influence by sex and residence

Influence	Boys			Girls		
	Total	Farm	Non-farm	Total	Farm	Non-farm
None	59.8	62.3	58.6	59.5	57.8	60.2
Some	33.5	31.0	34.7	34.2	34.8	33.9
Very Much	6.7	6.7	6.7	6.4	7.4	6.0
Total Per Cent	100.0	100.0	100.0	100.1	100.0	100.1
Number	1271	416	855	1221	365	856

Statistical test of farm vs. nonfarm differences

	Boys	Girls
Chi-square	1.79	1.13
d. f.	2	2
P	>.30	>.50

Peer group culture

The indicator of peer group culture was a Guttman-type scale of perceptions of respondents concerning agreement of friends with specific statements about education. The scale will be referred to in this report as the peer group educational orientation scale. Residential differences were not the same for boys and girls and the differences that were found were not statistically significant (table 17).

Scholastic performance

The scholastic achievements of a student reflect intelligence, interest, effort and social skill of the student. Grades represent a form of recognition of merit and probably serve an important motivating function. In this study, we asked each student to indicate the level of grades received on his or her last report card (table 18).[3]

Table 17. Perception of peer group educational orientation by sex and residence

	Boys			Girls		
Value Peers Put on Education	Total	Farm	Non-farm	Total	Farm	Non-farm
Low	30.5	28.3	31.8	16.9	14.9	17.8
Medium	27.8	27.3	28.0	23.2	25.7	22.0
High	30.0	33.0	28.6	37.5	35.0	38.6
Very High	11.6	11.5	11.7	22.5	24.5	21.6
Total Per Cent	99.9	100.1	100.1	100.1	100.1	100.0
Number	1389	471	918	1415	461	954

Statistical test of farm vs. nonfarm differences

	Boys	Girls
Chi-square	4.90	7.26
d. f.	5	5
P	>.30	>.10

Table 18. Reported grades by sex and residence

	Boys			Girls		
Grades	Total	Farm	Non-farm	Total	Farm	Non-farm
As	4.2	3.1	4.8	8.8	10.5	8.0
As and Bs	13.0	15.7	11.6	22.0	23.3	21.3
Bs	13.1	13.7	12.9	17.6	19.4	16.8
Bs and Cs	28.5	29.5	28.0	26.0	24.3	26.8
Cs	20.3	19.3	20.8	15.3	13.2	16.3
Cs and Ds	15.8	14.8	16.3	7.8	7.6	7.9
Ds	3.3	2.5	3.7	1.8	1.6	1.9
Ds and Fs	1.8	1.4	2.0	.7	.2	1.0
Total Per Cent	100.0	100.0	100.1	100.0	100.1	100.0
Number	1660	555	1105	1621	515	1106

Statistical test of farm vs. nonfarm differences

	Boys	Girls
Chi-square	11.09	10.65
d. f.	7	7
P	>.10	>.10

[3] In a few schools, we obtained information from school records concerning grades of students in the interview sample. This information has not yet been analyzed fully, but there appears to be a fairly high degree of consistency between recorded and reported grades. In a later study, we found a correlation of r = .83.

On the basis of reported grades, the great bulk of the students appear to be reasonably successful. Only 10.3% of the girls and 20.9% of the boys reported grades below C. The sexes differed similarly in high grades. Among the girls 30.8% reported that the grades on their last report card were mostly As or As and Bs compared to 17.2% of the boys. The girls' tendency to have higher grades than boys is consistent with the results of earlier studies by the author. Farm vs. nonfarm differences in the distribution of grades were not statistically significant.

Self-appraisal of academic ability

A Guttman-type scale was constructed on the basis of self-appraisal of academic ability (question 84 of the classroom questionnaire) using the semantic differential technique.[4] The resulting scale will be called the academic self-concept scale.

Farm boys and girls were more likely than nonfarm boys and girls to appraise their academic abilities favorably (table 19). The differences were not statistically significant.

Social and Cultural Factors in Educational Aspirations and Expectations

As noted in the literature review, paramount among the many social and cultural factors that influence the level of educational aspirations of high school students are family circumstances and norms, peer group culture, various school experiences and personal factors, especially the student's self-concept. Most studies that have investigated the subject have found that living on a farm tends to depress the level of educational aspirations. As we have already seen, this is not the case with the students in the current sample.

Because the weight of previous evidence emphasized the differential and depressing consequences of farm residence, our research design was set up so as to control for farm vs. nonfarm residence. Thus, we had an opportunity to investigate the differential effect of selected social and cultural factors on farm vs. nonfarm high school students. Because our sample overturned the traditional expectation that

Table 19. Self-appraisal of academic ability by sex and residence

	Boys			Girls		
Self-Appraisal	Total	Farm	Non-farm	Total	Farm	Non-farm
High	28.7	32.4	27.1	37.7	40.6	36.2
Medium	14.4	12.4	15.3	16.1	12.3	18.1
Low	56.9	55.2	57.6	46.2	47.1	45.8
Total Per Cent	100.0	100.0	100.0	100.0	100.0	100.1
Number	334	105	229	409	65	124

Statistical test of farm vs. nonfarm differences

	Boys	Girls
Chi-square	32.21	21.81
d. f.	24	18
P	>.10	>.70

[4] Unfortunately, the semantic differential was near the end of the questionnaire and information was obtained from a relatively small proportion of the students.

farm residence depresses the level of educational aspirations and expectations, major attention in the analysis of the influence of social and cultural factors was directed to the relationship between these factors and the dependent variables of educational aspirations and expectations.

The evidence relevant to the hypotheses concerning social and cultural factors is presented below under the headings: family circumstances and norms, peer group culture, school experiences and contacts, and personal factors.

Family circumstances and norms

Hypothesis 1:

The educational aspirations and expectations of students will tend to be positively related to the economic and social status of their parents, e.g., those from wealthy families will tend to have higher aspirations that those from poor families.

Relevant information was obtained from all students and from most parents of students in the interview sample.

The level of educational aspiration was quite high for all categories of perceived family income. The students who wished to go to college ranged from 70.8% of those from homes with below average incomes to 83.4% from homes with above average incomes.

Students who reported that they thought that the income or wealth of their family was above the community average tended to have higher educational aspirations than students who thought their family incomes were average or below. The level of association was not high but it was statistically significant for the total of all respondents, for both sexes, and for farm students (table 20). Substantially the same pattern of relationships was found for educational expectations.

Parents of students in the interview sample were asked the level of their 1964 family income. The relationship between the educational aspirations and expectations of students and family income as reported by parents was examined. A statistically significant positive relationship between the economic status of the family and the level of aspirations was found. This association was stronger than that observed between students' perceptions of family income and educational aspirations. This interesting finding suggests that students' perceptions may not be very accurate (table 21). The relationship was least pronounced for the level of educational expectations of farm students.

Among students whose parents reported that their 1964 family income was $10,000 or more, only 11.2% indicated that they would be content to end their formal education without going to college. This may be contrasted with 50% of those whose parents reported incomes of less than $4,000. Among the students from families with 1964 incomes of $10,000 or over, 68% aspired to a bachelor's degree or more and 54.3% expected to attain their goal. In contrast, among those from families with incomes of less than $4,000, 34.4% aspired to one or more college degrees and 20.7% expected to receive at least a bachelor's degree. Among farm students from families that reported 1964 incomes of less than $4,000, the level of educational expectations was higher than for the total of all students; 29.1% of the farm students from these homes expected to obtain at least a bachelor's degree, compared to 20.7% of all students from families reporting less than $4,000 of 1964 income.

It is concluded that the data examined above support the hypothesis that students from wealthy families tend to have higher educational aspirations than those from poor families. The data indicate that the relationship exists for both boys and girls, although it is less pronounced for girls than for boys. The relationship also exists for both farm and nonfarm residents, although weaker for farm than for nonfarm residents. The data suggest that some students residing on farms have unrealistically high educational expectations.

Hypothesis 2:

Students from farm families tend to place less importance than nonfarm students on the academic aspects of education and more importance on the vocational aspects.

This hypothesis was tested by an analysis of the association of the pattern of high school courses planned by the student and aspiration levels. Information on courses was obtained in response to the question "Since completing the eighth grade, how many semesters will you have studied each of the following subjects by the end of high school?" The subjects listed were agriculture, algebra, art and music, biology, business, chemistry, English, foreign language, geometry, history, home economics, physical education, physics, shop, social studies and trigonometry.

Table 20. Association between educational aspirations and expectations and students' perceptions of level of family income

Sex and Residence	d.f.[a]	X^2	P	C	Direction of C[b]
Aspirations of:					
All Students	6	48.5	.001	.125	+
Boys	6	23.4	.001	.134	+
Girls	6	21.8	.002	.120	+
Farm Residents	6	13.2	.050	.113	+
Expectations of:					
All Students	6	63.2	.001	.146	+
Boys	6	21.7	.002	.121	+
Girls	6	46.3	.001	.177	+
Farm Residents	6	19.5	.01	.141	+

[a] Degrees of freedom

[b] Direction was determined by inspecting substantive data.

Table 21. Association between educational aspirations and expectations and parents' reports of 1964 family income

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	15	55.7	.001	.301	+
Boys	15	40.7	.001	.360	+
Girls	15	36.6	.004	.337	+
Farm Residents	15	33.2	.002	.381	+
Expectations of:					
All Students	6	39.7	.001	.264	+
Boys	6	37.4	.001	.353	+
Girls	6	15.2	.02	.231	+
Farm Residents	6	9.9	.20	.226	+

The data in table 22 show only slight differences between farm and nonfarm residents with respect to the average number of elective academic courses planned. The averages of farm and nonfarm girls were identical, while nonfarm boys had slightly higher averages than farm boys.

The vocational course situation was somewhat different. Farm boys planned to take significantly more vocational courses. Probably the main reason was that many farm boys, but few nonfarm boys, elected to take vocational agriculture, which was available in about half of the 30 schools. Farm girls planned to take slightly more vocational courses than nonfarm girls, but the differences were not statistically significant.

On the basis of this evidence, it appears that the hypothesis is only partially supported and requires restatement to remove the indication of a nonacademic orientation on the part of Washington farm students.

Hypothesis 3:

The educational aspirations and expectations of farm students tend to be inversely related to dependence of the parental family on agriculture, e.g., those from full-time farms will tend to have lower aspirations than those from part-time farms.

Parents of students from farms in the interview sample were asked to indicate whether they were full-time or part-time farmers. If they were part-time farmers they were also asked to indicate whether most of their income was from farm or nonfarm sources.

Students from farm families whose income was reported by parents to be mostly from farm sources had higher educational aspirations than those from farm families whose incomes came mostly from nonfarm sources. Differences were especially marked with respect to educational expectations; 86.9% of the farm students from full-time farms aspired to go to college, compared to 81.5% of those from families whose incomes were mostly from nonfarm sources. College expectations were expressed by 90% of the students from full-time farms and by only 66.3% of those whose families' incomes were mostly from nonfarm sources. These data suggest that some parents who are full-time farmers are perceived by their adolescent children as forcing them to go to college when many would prefer not to.

Thus, the results do not support the hypothesis. The level of association shown in table 23 is not high but it is statistically significant.

Table 22. Average number of vocational and elective academic courses planned by sex and residence

Sex and Residence	Vocational Courses Average	Vocational Courses σ	Academic Courses Average	Academic Courses σ
All Students	4.9	2.6	4.2	2.8
Boys	5.5	2.8	4.4	3.1
Girls	4.3	2.2	4.0	2.5
All Farm	5.4	2.7	4.1	2.7
Boys	6.3	2.9	4.2	3.0
Girls	4.4	2.2	4.0	2.5
All Nonfarm	4.7	2.5	4.2	2.8
Boys	5.1	2.7	4.5	3.1
Girls	4.2	2.2	4.0	2.5

Hypothesis 4:

Students from families with an 'intellectual tradition' tend to have higher educational aspirations and expectations than other students.

One indicator of the intellectual tradition or orientation of the family is the education of the father. The associations between educational aspirations, expectations, and education of the student's father were positive and stronger for expectations than for aspirations. For both, the relationship was significant at the .001 level (table 24).

The differences in aspiration levels between students with highly educated fathers (4 or more years of college) and those with fathers having only an elementary education were quite dramatic. Of the former, 94% aspired to go to college compared with 64.5% of the latter. The difference was even more pronounced for expectations; 92.9% of students with higher educated fathers expected to go to college compared to only 55.3% of those whose fathers had only an elementary education. The level of mother's education was also positively associated with aspirations and expectations (table 25).

Another indicator of family intellectual traditions is whether older brothers and sisters have attended college. It is evident from table 26 that there is a small positive statistically significant association between both educational aspirations and educational expectations and whether one or more siblings have attended colleges.[5]

Table 23. Association between educational aspirations and expectations and student reports of degree of dependence on farming

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Farm Students	3	13.4	.01	.115	+
Farm Boys	3	12.7	.01	.153	+
Farm Girls	3	5.7	.02	.109	+
Expectations of:					
All Farm Students	3	30.7	.001	.177	+
Farm Boys	3	19.9	.001	.196	+
Farm Girls	3	12.1	.01	.162	+

Table 24. Association between educational aspirations and expectations and education of father

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	12	225.6	.001	.267	+
Boys	12	136.1	.001	.288	+
Girls	12	103.7	.001	.260	+
Farm Residents	18	78.6	.001	.272	+
Expectations of:					
All Students	12	295.8	.001	.309	+
Boys	12	154	.001	.312	+
Girls	12	144.9	.001	.309	+
Farm Residents	18	87.8	.001	.293	+

[5] This analysis was restricted to students who had older brothers or sisters.

A negative indicator of the intellectual tradition of the family is the number of children who have dropped out of school before completing high school. As expected, there was a negative association between siblings who dropped out of school and educational aspirations and expectations (table 27).[6]

There was an especially pronounced effect on the level of educational expectations of girls. Only 32% of the girls who reported that one or more brothers or sisters had dropped out of school aspired to college, compared to 60% of girls with no brothers or sisters who had dropped out of school.

As noted earlier, a Guttman-type scale of perceived family attitudes toward education was constructed as a measure of family intellectual orientation. As in the case of other indicators of family intellectual traditions, the analysis revealed positive and statistically significant relationships between scores on the scale and levels of educational aspirations and expectations (table 28).

Considering the data provided by the several indicators presented above, it is concluded that substantial support exists for the hypothesis. It appears that the intellectual tradition of a family does have a substantial influence on the level of educational aspirations and expectations.

Table 25. Association between educational aspirations and expectations and education of mother

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	12	221.4	.001	.264	+
Boys	12	106.5	.001	.257	+
Girls	12	122.3	.001	.278	+
Farm Residents	18	75.9	.001	.268	+
Expectations of:					
All Students	12	223.9	.001	.272	+
Boys	12	92.6	.001	.247	+
Girls	12	134.4	.001	.297	+
Farm Residents	18	83.9	.001	.287	+

Table 26. Association between educational aspirations and expectations and number of brothers and sisters who attended college[a]

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	24	172.9	.001	.286	+
Boys	24	98.6	.001	.305	+
Girls	24	97.2	.001	.300	+
Farm Residents	24	70.8	.001	.314	+
Expectations of:					
All Students	24	192.9	.001	.309	+
Boys	24	101.0	.001	.318	+
Girls	24	128.4	.001	.347	+
Farm Residents	24	80.4	.001	.340	+

[a] This analysis was restricted to students who had older brothers and sisters.

Table 27. Association between educational aspirations and expectations and number of brothers and sisters who were dropouts[a]

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	24	141.6	.001	.261	—
Boys	24	79.4	.001	.276	—
Girls	24	76.9	.001	.270	—
Farm Residents	24	64.5	.001	.301	—
Expectations of:					
All Students	24	160.2	.001	.283	—
Boys	24	71.3	.001	.271	—
Girls	24	92.2	.001	.299	—
Farm Residents	24	71.7	.001	.323	—

[a] This analysis was restricted to students who had older brothers or sisters.

[6] Ibid.

Peer group culture

Hypothesis 5:

> *Students who belong to and identify themselves with specific peer groups will tend to have similar educational aspirations and expectations, e.g., farm students who associate chiefly with other farm students in school related groups and activities will tend to have lower educational aspirations and expectations than other farm students.*

As a means of testing the second part of this hypothesis, students were asked to indicate what proportion of their friends were from farms. Table 29 shows a small but statistically significant positive relationship between the level of educational aspirations and educational expectations and the proportion of friends who are from farms. It appears that students who report that many of their friends are from farms (*even though they themselves are not from farms*) tend to have higher aspirations and expectations.

Another test of peer group influence was obtained by cross-tabulating educational aspirations and expectations by responses to a question asking what proportion of the friends of the students were leaders in school activities. The proportion of friends who were leaders and the level of educational aspirations and expectations were positively associated (table 30).

A third test of peer group influence was obtained by analyzing the relationship between the levels of educational

Table 28. Association between educational aspirations and expectations and score on scale of family orientation toward education

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	18	149.0	.001	.227	+
Boys	18	101.1	.001	.262	+
Girls	18	68.5	.001	.218	+
Farm Residents	18	71.4	.001	.269	+
Expectations of:					
All Students	18	114.4	.001	.205	+
Boys	18	65.2	.001	.218	+
Girls	18	70.0	.001	.225	+
Farm Residents	18	28.7	.05	.179	+

aspirations and expectations and scores on the Guttman-type scale of perceived educational values of friends. There was a positive and statistically significant relationship (table 31).

The data above support the first part of the hypothesis but make it necessary to reject the second part. The actual relationship is the reverse of what had been hypothesized.

School experiences and contacts

In a country as devoted to education as the United States, it is reasonable to believe that educational aspirations of teenagers are greatly influenced by their school experiences and contacts. It is, of course, necessary to acknowledge that by the time a boy or girl reaches high school he or she has already participated in the school system for at least 8 years and has been molded by countless experiences, many of which have been so incorporated into the self-concept that their sources are no longer identifiable. In this inquiry we have attempted to investigate the strength of some high school influences.

Hypothesis 6:

Students who have discussed educational or occupational plans with teachers and/or counselors tend to have higher educational aspirations and expectations than other students.

The analysis revealed small but statistically significant positive associations between the level of discussion and the levels of educational aspirations and of educational expectations (table 32). Students who reported that they had discussed their educational or occupational plans with one or more teachers were more likely to aspire to and to expect to go to college. This was especially true for those who reported having discussed their plans "very much" with teachers. In fact, 87.3% of those reporting "very much" discussion with teachers aspired to go to college compared to 80.9% for those reporting "some" discussion and 69.6% of those reporting no discussion. Expectations to go to college were similar but somewhat lower.

The associations between aspirations and expectations of students and their reports of discussion of plans with a school counselor were also positive, but weaker than those with teachers (table 33).

These data support the hypothesis stated above.

Table 29. Association between educational aspirations and expectations and proportion of friends from farms

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	6	48.5	.001	.127	+
Boys	6	30.5	.001	.142	+
Girls	6	28.7	.001	.139	+
Farm Residents	6	22.2	.001	.149	+
Expectations of:					
All Students	6	37.1	.001	.114	+
Boys	6	20.2	.001	.119	+
Girls	6	20.2	.001	.120	+
Farm Residents	6	25.5	.001	.163	+

Table 30. Association between educational aspirations and expectations and proportion of friends who are leaders in school

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	6	154.0	.001	.223	+
Boys	6	94.4	.001	.245	+
Girls	6	91.6	.001	.243	+
Farm Residents	6	52.0	.001	.226	+
Expectations of:					
All Students	6	155.2	.001	.230	+
Boys	6	99.9	.001	.258	+
Girls	6	89.0	.001	.245	+
Farm Residents	6	44.7	.001	.215	+

Table 31. Association between educational aspirations and expectations and score on scale of peer group orientation toward education

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	15	144.3	.001	.221	+
Boys	15	103.0	.001	.263	+
Girls	15	88.7	.001	.243	+
Farm Residents	15	51.2	.001	.228	+
Expectations of:					
All Students	15	137.1	.001	.221	+
Boys	15	103.7	.001	.270	+
Girls	15	93.6	.001	.255	+
Farm Residents	15	42.2	.001	.212	+

Table 32. Association between educational aspirations and expectations and students' reports of discussion of plans with teachers

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	3	82.0	.001	.161	+
Boys	3	42.0	.001	.161	+
Girls	3	42.1	.001	.165	+
Farm Residents	6	17.6	.01	.130	+
Expectations of:					
All Students	3	89.9	.001	.173	+
Boys	3	54.2	.001	.187	+
Girls	3	37.7	.001	.160	+
Farm Residents	6	48.3	.001	.217	+

Table 33. Association between educational aspirations and expectations and students' reports of discussion of plans with school counselors

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	6	27.2	.01	.103	+
Boys	6	19.6	.02	.122	+
Girls	18	25.4	.10	.160	+
Farm Residents	6	4.8	.40	.076	0
Expectations of:					
All Students	3	23.0	.001	.098	+
Boys	3	12.9	.01	.102	+
Girls	3	16.0	.001	.116	+
Farm Residents	6	2.8	.90	.061	0

Hypothesis 7:

Students who have received special recognition and/or encouragement from at least one teacher tend to have higher educational aspirations and expectations than other students.

Students were asked if they had been influenced by discussion of their educational or occupational plans with one or more teachers. If we can assume that students were more likely to report favorable than unfavorable influence, the results can be interpreted as supporting the hypothesis. There was a statistically significant positive association between students' reports of teacher influence and levels of educational aspirations and expectations (table 34).

As another means of testing this hypothesis, the classroom questionnaire asked: "My teachers in high school have: (a) encouraged me to go to college (b) discouraged me from going to college (c) had no effect on my decision."

Students who reported having been encouraged by one or more teachers to go to college were somewhat more likely than students who did not report such encouragement to aspire to and expect to go to college. Table 35 shows a small but statistically significant association for both aspirations and expectations. The substantive data show that 89% of those who had been encouraged to go to college compared to 59.1% of others aspired to go to college. Further, 86.1% of those encouraged and 62.8% of the others expected to go to college.

We may conclude that the data support the hypothesis.

Table 34. Association between educational aspirations and expectations and students' reports of teacher influence on educational or occupational planning

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	6	96.02	.001	.176	+
Boys	6	51.24	.001	.180	+
Girls	6	54.57	.001	.189	+
Farm Residents	6	25.08	.001	.156	+
Expectations of:					
All Students	6	94.93	.001	.179	+
Boys	6	57.83	.001	.195	+
Girls	6	42.56	.001	.172	+
Farm Residents	6	31.83	.001	.179	+

Table 35. Association between educational aspirations and expectations and students' reports of teacher encouragement to go to college

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	3	199.9	.001	.254	+
Boys	3	105.4	.001	.258	+
Girls	3	106.1	.001	.263	+
Farm Residents	6	38.8	.001	.254	+
Expectations of:					
All Students	3	204.0	.001	.262	+
Boys	3	113.9	.001	.274	+
Girls	3	111.1	.001	.274	+
Farm Residents	6	45.8	.001	.295	+

Hypothesis 8:

Students who acknowledge that a school counselor has influenced their plans will tend to have higher educational aspirations and expectations than other students.

An indirect indication of the influence of counselors has already been presented. In addition, all students were asked how much the school counselor had influenced their plans. Table 36 shows a small but statistically significant positive association between students' reports of how much they had been influenced by the counselor and the level of their educational aspirations and expectations.

To get additional information on the influence of school personnel, counselors, administrators, and teachers who evaluated students were asked to indicate whether they had encouraged specific students to go to college. This information was cross-tabulated with information concerning aspiration and expectation levels of the students. Table 37 shows that there was a fairly strong and positive statistically significant association between such encouragement and the aspirations of students to go to college. The same was true for college expectations. The association was stronger for boys than for girls.

Of the boys who, according to the counselors' reports, had been encouraged to go to college, 93% reported college aspirations and 89.4% expected to go to college. Among the girls, 86% of those who had been encouraged to go to college aspired to do so and 81.3% expected to go to college.

Table 36. Association between educational aspirations and expectations and students' reports of counselor influence[a]

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	6	41.8	.001	.133	+
Boys	6	30.3	.001	.157	+
Girls	6	17.8	.010	.124	+
Farm Residents	6	15.9	.020	.144	+
Expectations of:					
All Students	3	24.7	.001	.105	+
Boys	3	9.8	.010	.093	+
Girls	3	20.9	.001	.138	+
Farm Residents	6	3.9	.700	.074	+

[a] Students who reported that their school had no counselor were excluded from this comparison.

Table 37. Association between educational aspirations and expectations and counselor's report of encouragement to go to college

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	9	83.1	.001	.396	+
Boys	9	50.7	.001	.429	+
Girls	9	37.7	.001	.382	+
Farm Residents	12	31.7	.01	.417	+
Expectations of:					
All Students	9	63.2	.001	.359	+
Boys	9	43.1	.001	.409	+
Girls	9	28.2	.001	.343	+
Farm Residents	12	19.2	.150	.339	+

Hypothesis 9:

The pattern of school subjects chosen by a student affects his educational expectations. Students who have taken many college preparatory courses are more likely than others to have college expectations.

To test this hypothesis, students were classified in accordance with the number of semester hours of elective academic courses that they planned to complete by the end of high school. These data were then cross-classified with educational aspirations and expectations. Table 38 indicates a fairly strong and statistically significant positive association with levels of aspiration and expectation. That is, the more elective academic courses planned, the more likely the student is to have college aspirations *and* expectations.

This finding supports the hypothesis.

The relationship between the pattern of vocational courses taken and educational aspirations and expectations was also analyzed. Table 39 shows a small but negative association between the number of semester hours of vocational courses planned and both educational aspirations and expectations. This relationship was weakest for farm residents and was not statistically significant for them.

The data support the hypothesis concerning the relationship of academic courses to collegiate aspirations and expectations.

Table 38. Association between educational aspirations and expectations and planned number of semester hours of elective academic courses

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	12	750.7	.001	.441	+
Boys	12	445.1	.001	.467	+
Girls	12	299.9	.001	.407	+
Farm Residents	12	241.9	.001	.435	+
Expectations of:					
All Students	12	677.3	.001	.432	+
Boys	12	341.5	.001	.430	+
Girls	12	326.4	.001	.430	+
Farm Residents	12	206.4	.001	.417	+

Table 39. Association between educational aspirations and expectations and planned number of semester hours of vocational courses

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	12	50.7	.001	.127	—
Boys	12	73.0	.001	.209	—
Girls	12	30.3	.002	.140	—
Farm Residents	12	15.2	.200	.120	0
Expectations of:					
All Students	12	48.8	.001	.128	—
Boys	12	35.6	.001	.152	—
Girls	12	45.3	.001	.175	—
Farm Residents	12	7.6	.900	.088	0

Hypothesis 10:

Participation in vocational agriculture courses in high school tends to be associated with low educational aspirations and expectations on the part of boys.

To test this hypothesis, we made a special analysis of the relationship between extent of participation in the vocational agriculture programs and the levels of educational aspirations and expectations of boys in the 16 high schools that offered vocational agriculture. Boys who indicated that they would have 4 or more semesters of vocational agriculture by the time they finished high school were classified as full participants. Boys who indicated that they would study vocational agriculture for 1, 2 or 3 semesters were classified as partial participants. The rest of the boys were classified as nonparticipants.

The data indicate that in the schools where vocational agriculture was available, boys with no vocational agriculture tended to have somewhat higher educational aspirations and expectations (table 40). However, the full participants tended to have higher aspirations and expectations than the partial participants. The differences were not statistically significant but they were all in the same direction. Consequently, we cannot completely reject the hypothesis.

Hypothesis 11:

The limited educational resources of the small rural high school tend to be associated with low educational aspirations and expectations of students attending these high schools.

To test this hypothesis, the percentages of students aspiring to different levels of education were tabulated according to

Table 40. Educational aspirations and expectations of boys by extent of participation in vocational agriculture courses

Highest Level of Education Aspired to	Total	Pct. with this Aspiration Vo. Agr. Participation		
		Full	Part	None
High School	8.3	6.6	11.5	8.1
Business or Technical School	15.4	18.8	18.9	11.4
Attend College	17.9	19.3	21.3	15.4
Bachelor's Degree	28.9	26.9	24.6	32.4
Master's Degree	17.4	17.3	13.1	19.5
Doctorate	12.0	11.2	10.7	13.2
Total Per Cent	99.9	100.1	100.1	100.0
Number	591	197	122	272

Highest Level of Education Expected	Total	Pct. with this Expectation Vo. Agr. Participation		
		Full	Part	None
High School	13.7	13.7	15.7	12.6
Business or Technical School	14.4	14.3	18.2	12.6
Attend College	23.8	24.9	23.1	23.4
Bachelor's Degree	31.0	30.2	25.6	34.1
Master's Degree	9.8	9.5	9.1	10.3
Doctorate	7.4	7.4	8.3	6.9
Total Per Cent	100.1	100.0	100.0	99.9
Number	571	189	121	261

size of school. This was also done for educational expectations. With one exception, the results were inconclusive for both boys and girls for all levels of educational aspirations and expectations. The exception is that a fairly strong negative product-moment correlation ($r = -.447$) was found between size of school and the expectations of boys to obtain a bachelor's degree. This means that boys in smaller schools were more likely to aspire to such a degree. In view of the lack of association for all of the other relationships, further data would be required before this finding could be accepted as a basis for expecting a negative relationship in other samples.

The data fail to support the hypothesis. At the same time sufficient information to formulate an alternative hypothesis of a negative relationship is not available.

Personal factors

A number of personal factors may influence educational aspirations. From a sociological point of view, the two aspects of primary concern are intelligence and self-evaluation of ability.

We have relied on self-reported grades as an indicator of intelligence. Of course, grades depend on attitudes and effort to a very appreciable extent, yet grades also reflect effective intelligence if not the basic potential of a student.

Hypothesis 12:

Students with high school grades have higher educational aspirations than students with lower school grades.

Table 41 shows a fairly strong and statistically significant positive association between the level of students' reports of their grades and their educational aspirations and expectations. This was true for the total, for boys and for girls and for farm residents as well as for others. The strength of the association was stronger for boys than for girls.

Among the top students, those who reported having received mostly As or mostly As and Bs (presumably also the most highly intelligent students), 97.9% of the boys and 85.5% of the girls aspired to go to college and 96.8% of the boys and 79.6% of the girls expected to go. Among the students who received mostly Cs and Ds, Ds, or Ds and Fs, there was little difference between the sexes. Slightly more than half aspired to go to college and a slightly higher percentage expected to go to college.

Table 41. Association between educational aspirations and expectations and students' reports of grades on last report card

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	6	401.4	.001	.340	+
Boys	6	364.9	.001	.433	+
Girls	6	141.2	.001	.293	+
Farm Residents	6	120.2	.001	.324	+
Expectations of:					
All Students	6	314.8	.001	.312	+
Boys	6	285.9	.001	.401	+
Girls	6	129.2	.001	.288	+
Farm Residents	6	99.2	.001	.304	+

These data support the hypothesis that students with higher reported grades are likely to have higher educational aspirations and expectations.

Hypothesis 13:

Among students with high school grades, those from farms tend to have lower educational aspirations and expectations than others.

The levels of educational aspirations and expectations did not differ much between farm and nonfarm students with high grades.

Among the farm students with low grades, 30.6% compared to 19.4% of the nonfarm students aspired to at least a college degree. Not only did a substantial minority of farm students with low high school grades aspire to high educational goals, but many of them expected to attain these goals. Of the farm students with low grades, 23.8% expected to obtain a bachelor's degree compared to 18.1% of such nonfarm students. Farm boys had higher levels of educational aspirations and expectations than farm girls.

These data do not support the hypothesis.

Hypothesis 14:

Students with a high self-evaluation of academic ability tend to have higher educational aspirations and expectations than other students.

The relationship between the levels of educational aspirations and expectations of a student and his or her score on the academic self-concept scale was analyzed. The higher the academic self-concept, the higher the level of aspirations and expectations (table 42). The relationship was stronger for boys than for girls and for nonfarm than for farm students.

These data support the hypothesis insofar as nonfarm residents are concerned. The results for farm residents are inconclusive.

Occupational Choice

In contemporary America, educational and occupational attainments are closely related. It is well known that entrance into and successful careers in the elite occupations require a high level of education. Much less attention has been given to the influence of occupational preferences and choices on educational aspirations and expectations.

Yet there is little doubt that the development of a sense

Table 42. Association between educational aspirations and expectations and score on academic self-concept scale

Sex and Residence	d.f.	X^2	P	C	Direction of C
Aspirations of:					
All Students	18	36.7	.010	.222	+
Boys	18	43.9	.001	.347	+
Girls	18	19.9	.400	.222	0
Farm Residents	18	14.9	.700	.243	0
Expectations of:					
All Students	18	48.7	.001	.261	+
Boys	18	51.3	.001	.380	+
Girls	18	30.2	.050	.278	+
Farm Residents	18	21.6	.300	.296	0

of identification with an occupation tends to affect the attitudes of a person toward related matters, especially toward education. It seems reasonable to expect that students who have made firm occupational choices will plan to obtain the type and level of education required to enter and succeed in the occupation.

It is acknowledged that evidence from many studies indicates that the occupational choices reported by a substantial proportion of high school students are tentative and subject to change. Nevertheless, even tentative occupational plans may influence occupational aspirations and expectations.

The results of tests of hypotheses relating to occupational choice follow:

Career commitments of farm boys to farming

Hypothesis 15:

Farm boys who are planning to farm tend to have lower educational aspirations and expectations than other farm youths.

To test this hypothesis, farm boys were classified as planning to farm if their answer to question 28, "What occupation do you think you would like best when you are 30 years old?" was farmer or farm manager and if, in addition, their response to question 30 on the classroom questionnaire indicated that they thought that the chances were at least 50/50 that they would actually be farmers or farm managers when they reached age 30. Farm boys not meeting these rather stringent requirements were classified as not planning to farm.

Contrary to expectations, we found that 80.1% of those not planning to farm and 81% of those who were planning to farm aspired to go to college. (These percentages include the first three rows in table 43). Fifty-seven per cent of the farm boys not planning to farm and 57.5% of the farm boys planning to farm aspired to at least a bachelor's degree. There was a difference with respect to aspirations for graduate work; 29.2% of the farm boys with nonfarm job plans aspired to take graduate work compared to only 10.7% of the farm boys who were planning to farm. Data concerning expectations followed a similar pattern although expectations were somewhat lower than aspirations.

It appears that there is support for the hypothesis only if graduate level education is taken into account.

Hypothesis 16:

Farm boys who plan to farm place less importance than farm boys who do not plan to farm on the academic aspects of education.

To test this hypothesis farm boys planning to farm and not planning to farm were compared with respect to the number of semester hours of elective academic courses planned.

Farm boys who planned to farm intended to take an average of 4.3 elective academic courses in high school, compared to 3.2 hours for farm boys who did not plan to farm. The difference was in the opposite direction to that expected, but it was not statistically significant. The data do not support the hypothesis.

Hypothesis 17:

Farm boys who do not plan to farm compare about equally with nonfarm boys in importance placed on academic and vocational subjects.

The plans for taking the academic and vocational courses of farm boys who do not plan to farm and nonfarm boys were compared. Table 44 shows that farm boys not planning to farm and nonfarm boys intended to take practically the same number of elective academic hours. However, there was a difference in vocational subjects. Farm boys not planning to farm intend to take an average of 6.5 vocational hours compared to 5.2 for the nonfarm boys. This difference was significant at the .001 level. Consequently, the hypothesis was supported with respect to academic courses but not with respect to vocational courses.

Work plans of farm girls

Hypothesis 18:

Farm girls who are planning careers in addition to or instead of homemaking will place as much importance on academic and vocational subjects as do nonfarm girls.

To test this hypothesis, a comparison was made between nonfarm girls and farm girls who said "yes" when asked: "Do you plan to work after finishing your education?" The data in Table 45 show very little difference between the average

Table 43. Commitment to farming as a career and educational aspirations and expectations of farm boys

Highest Level of Education	Aspirations by Plans to Farm		Expectations by Plans to Farm	
	No	Yes	No	Yes
Graduate Work	29.2	10.7	16.6	6.7
Bachelor's Degree	27.8	46.8	29.2	37.8
Some College	23.1	23.5	29.8	28.8
High School Only	19.9	19.2	24.5	26.6
Number of Respondents	503	47	483	45

Table 44. Academic and vocational courses of nonfarm boys and farm boys who do not plan to farm

Item	Farm (hours)	Nonfarm (hours)	X^2	d.f.	P
Average Elective Academic Hours	4.3	4.2	10.3	14	>.70
Standard Deviation	3.0	3.0			
Average Vocational Hours	6.5	5.2	58.1	4	<.001
Standard Deviation	2.9	2.7			

Table 45. Academic and vocational courses planned by farm and nonfarm girls who planned to work after finishing their education

Item	Farm (hours)	Nonfarm (hours)	Z	P
Average Elective Academic Hours	3.8	3.6	.36	>.05
Standard Deviation	2.2	2.2		
Average Elective Vocational Hours	4.4	4.3	.11	>.05
Standard Deviation	2.4	2.8		

number of elective hours of academic courses planned by farm and nonfarm girls who planned to work after finishing their education. This was also true with respect to the average number of vocational hours planned by these girls.

The data support the hypothesis.

Farm residence and occupational choice

Hypothesis 19:

Compared to their rural nonfarm peers, farm students tend to be retarded in stage of occupational choice attained, e.g., relatively fewer of the farm students will have made a definite occupational choice.

Data concerning the proportions of farm and nonfarm students who specified a career choice do not support the hypothesis. More farm (81.4%) than nonfarm (77.5%) boys named a career choice and the differences between farm and nonfarm girls were negligible (table 3).

Data concerning entry occupations do not support the hypothesis either; more farm than nonfarm students of both sexes named an entry occupation (table 4).

Hypothesis 20:

Farm students are less likely than rural nonfarm students to have made a realistic appraisal of the possibility of attaining declared occupational objectives, e.g., those who indicate preference for a high status occupation tend to be less aware of the requirements for entry such as educational preparation.

To test this hypothesis we analyzed the relationship between a student's preference for professional or technical occupations at age 30 and the levels of his or her educational aspirations and expectations.

As anticipated, there was a fairly strong positive relationship (table 46). At the same time, it appears that a substantial number of students who would like to have professional careers do not plan to obtain the necessary education.

So far as residential differences are concerned, the evidence is inconclusive. Slightly fewer farm boys (57.9%) than nonfarm boys (59.9%) who had professional or technical career aspirations expected to graduate from college. Among the girls, the residential differences were reversed; 55.4% of the farm girls and 51.2% of the nonfarm girls who aspired to a professional or technical occupation expected to graduate from college. None of these residential differences were statistically significant at the .05 level. Consequently, it is not possible to reject the null hypothesis of no difference between residential categories.

Table 46. Association between educational aspirations and expectations and preference for a professional career

Sex and Residence	d.f.	X^2	P	C	Direction of C
Educational Aspirations of:					
All Students	3	690.4	.001	.461	+
Boys	3	288.7	.001	.432	+
Girls	3	385.7	.001	.478	+
Farm Residents	3	221.5	.001	.452	+
Educational Expectations of:					
All Students	3	468.0	.001	.400	+
Boys	3	170.7	.001	.354	+
Girls	3	277.9	.001	.427	+
Farm Residents	3	143.5	.001	.385	+

Parental vs. school assistance in occupational planning

Hypothesis 21:

Students (both farm and nonfarm) who receive little help from their parents in occupational planning turn to school sources for assistance.

Parents were identified as helpful sources of occupational information more often than any other source listed in the questionnaire. To test the hypothesis, the responses of students who named parents as a source were compared to the responses of those who did not, to see if there were any differences in the proportions naming teachers or counselors as sources (table 47). For all sex and residential categories, students who named parents as a source of occupational information were more likely than those who did not name parents to report that teachers had been a source. The tendency was especially pronounced among students from farms.

The same patterns of responses was found with respect to students' reports that counselors had been helpful sources of occupational information. However, the proportions of students naming counselors were lower than the proportions naming teachers in every category of table 47.

On the basis of the analysis, the hypothesis is rejected. Support was found for an alternative hypothesis that students who receive help from parents are more likely than other students to avail themselves of help from teachers and counselors. The data suggest that students who are out of touch with their parents also tend to be out of touch with other adult authority figures, at least insofar as occupational planning is concerned.

Hypothesis 22:

Farm students tend to make less use of vocational guidance and counseling than rural nonfarm students.

Students were classified by sex and residence and the extent of discussion with a school counselor noted (table 48). (Students who reported that their school had no counselor were excluded from this comparison.)

Table 47. Teachers and counselors as sources of occupational information by whether or not student also named parents as a source

	Parents Named as a Source?	
	Yes	No
Sex and Residence of Students	%	%
Teachers Named as Source By:		
Farm Boys	24.2	10.4
Nonfarm Boys	16.9	9.6
Farm Girls	22.7	11.7
Nonfarm Girls	18.4	14.1
Counselors Named as Source By:		
Farm Boys	6.6	4.2
Nonfarm Boys	11.5	4.8
Farm Girls	6.8	3.9
Nonfarm Girls	10.5	6.6

The data show that somewhat higher proportions of farm than of nonfarm boys and of nonfarm than of farm girls had discussed their educational and occupational plans with a school counselor. However, the residential differences were not statistically significant. Consequently, this hypothesis was not supported by the evidence.

Table 48. Farm vs. nonfarm differences in extent of discussion with counselor

	Extent of Discussion with Counselor		
	None	Some	Very Much
Sex and residence	%	%	%
Farm Boys	54.9	41.6	3.5
Nonfarm Boys	49.9	46.2	4.0
Farm Girls	46.4	48.2	5.4
Nonfarm Girls	48.5	47.2	4.3

Statistical test of farm vs. nonfarm differences

	Boys	Girls
Chi-square	2.99	.97
d. f.	2	2
P	>.30	>.50

CONCLUSIONS AND IMPLICATIONS

The following conclusions appear to be justified for rural Washington students:

1. Educational aspirations and expectations are very high.
2. Traditional farm vs. nonfarm differences in levels of educational aspirations and expectations have disappeared for girls and have apparently been reversed for boys.
3. There is some evidence of less realism among farm than among nonfarm boys in appraising the economic and scholarship requirements for attainment of high educational goals.
4. Educational aspiration and expectation levels are influenced by multiple social, cultural and economic factors. Among others, these include family circumstances and norms, peer group culture, school experiences in the classroom and in extra-curricular activities, and self-appraisal of ability.
5. Teachers and counselors have considerable influence on the educational aspirations and expectations of a minority of students.

Implications

With respect to social trends, the study indicates clearly that time-honored values and traditions are subject to change. Rural sociologists have been saying for 30 years or more that farm residents are becoming more and more like other people. The findings of this study indicate that this trend has at last been consummated in Washington with respect to the level of educational aspirations and expectations of farm boys and girls.

It is, of course, true that high aspirations, although essential for achievement, do not guarantee attainment of a desired goal. Rather than devote further efforts to attempts to raise levels of aspirations, emphasis in rural Washington might well be shifted to providing the quality of education necessary to permit rural boys and girls, farm and nonfarm alike, to attain their educational goals. Additional recognition and encouragement might motivate students to become better scholars.

Although providing high quality education is the primary task of the schools, the study provides evidence that teachers and counselors sometimes do greatly influence occupational and educational plans of high school students. But we should not overlook the contributions of families, peer groups, nor the personal experiences of students outside of school. Constructive efforts by school systems to improve the quality of education will be more likely to succeed if they receive the support of parents and of students. This is most likely to be obtained, I believe, if parents understand the goals and approve the methods to be used.

In a 1960 nationwide study (9) as in this study, a high proportion of the students indicated preferences for professional and technical occupations and the authors offered the opinion that these aspirations are unrealistic because much smaller proportions of the current labor force were employed in these elite occupations. This is still true, but the number of professional and technical positions has been expanded many fold in the last quarter of a century. Further, the prospects for the future, as outlined by the Bureau of Labor Statistics in the *Occupational Outlook Handbook* are for more professional and technical employment opportunities. In addition, there is much evidence that the occupational choices of high school students are tentative and subject to change. A wide range of occupations may be attractive to a specific adolescent. The high popularity of the professions indicated by surveys may be due partly to questionnaire format and question wording (23). Consequently, we should not conclude that the occupational expectations of high school youth are generally unrealistic. It would appear that this judgment could only be made in individual cases and then only on the basis of whether or not the student is making educational plans consistent with his ability and his occupational objective.

Relatively few students indicated that they had received very much assistance in occupational planning from school counselors. This fact indicates a need on the part of schools to provide more assistance to students along occupational lines. In the opinion of the investigator, the work of individual

counselors in assisting individual students would be strengthened and made more meaningful if students who come to them for guidance had taken one or more systematic courses that provided them with a framework with which to interpret information concerning the world of work.

So far as further research is concerned, there is a need for research in depth to ascertain whether students who do not do well in school can be rehabilitated as students or, as an alternative, induced to develop an interest in occupational roles that do not require higher education. In my opinion, inquiries should be longitudinal in nature and should begin with young children, since it is quite likely that failure to do well in school reflects defeat and discouragement encountered while the child is very young, perhaps even before he starts to school.

Another needed emphasis in research is longitudinal post high school studies to ascertain how much educational and occupational achievements are influenced by high school plans and expectations, by family circumstances, by self-appraisal of ability, and by other factors found in this study to be related to levels of educational aspirations and expectations.

DISCUSSION

Perhaps the most interesting finding of this study is that more farm boys than nonfarm boys in our sample had high educational aspirations and expectations and the companion finding that farm and nonfarm girls differed little in educational aspirations and expectations. As we noted earlier, this result contradicts previous findings for farm and nonfarm boys.

There are a number of clues concerning possible reasons in our data. A partial explanation may be found in the fact that the families of the farm students in our study were wealthier than many farm families in the United States as a whole. The median incomes of the farm students' families in our interview sample were very similar to the median incomes of the families of our nonfarm students. Recent national statistics indicate that the median 1964 incomes of all farm families in the United States ($4,166) were only a little more than half as high as those of all U. S. civilian nonfarm families, $7,924 (24).

In view of the evidence of parental influence, part of the explanation appears to be attributable to the fact that parents of farm students tended to be somewhat better educated than parents of nonfarm students.

But this is not a full explanation. As noted earlier, we found somewhat higher educational aspirations and expectations among farm boys and girls than among nonfarm boys and girls from low income families. In view of the rising costs of post high school education, these differences suggest that more farm than nonfarm students may have unrealistic expectations.

Another farm vs. nonfarm difference that is difficult to explain is the finding that farm students with low grades tend to have higher educational aspirations and expectations than nonfarm students with low grades. Rising college and university entrance requirements evidently have not been taken into account by many of those who are poor scholars. This unrealistic appraisal is apparently more prevalent among students from farms than among other students.

When we consider the possible interpretation of the findings in relation to other information, we may be justified in inferring that the message concerning the need to leave farming has been heard and understood by the large majority of farm boys and girls. Furthermore, the concept of a college education as the favored upward channel to occupational success has apparently reached rural students, both farm and nonfarm. Many students (especially farm boys) are apparently unaware that high school grades and substantial financial support are both usually necessary to attain a college education. Evidently, farm boys from economically and socially underprivileged homes tend to be less realistic than nonfarm boys from similar homes about the barriers between them and desirable educational and occupational goals.

The results of the analysis of the influence of the social, economic and cultural factors investigated were generally consistent with the hypotheses derived from the sociological frame of reference presented earlier. The results support the findings of earlier studies by the author and others, that many factors influence the levels of educational aspirations and expectations of high school students. There was clear evidence of parental influence. A student's perceptions of the orientations of his peer group toward education have some influence on his aspirations, and self-conceptions of academic ability are important.

Students who said that most or all of their friends were from farms were more likely than other students to have high educational aspirations and expectations.

We did not find that the influence of any of these factors was so strong that the influence of the others can safely be ignored.

The results indicate that in Washington, the traditional conservative views of farmers toward high education are no longer dominant. The educational values of the farm population have changed and are not substantially different from those of other residential segments of the population. We are not, of course, able to extrapolate our findings to other states, but it would be interesting to learn if similar developments have occurred elsewhere.

The differences observed between the sexes with respect to educational aspirations and expectations are similar to those found in previous studies by the author and by others. Girls tend to have higher school grades but they tend to have lower levels of educational and occupational aspirations and expectations than boys. In my opinion, the explanation for this is primarily cultural. I believe it is due to the expectation in contemporary American society that the man will be the main breadwinner, while the woman will give her main attention to the roles of wife-mother-homemaker.

It is true, of course, that most American women do work for pay at some time or other in their lives but, except for the small minority who make career commitments to professional occupations, paid work roles tend to be supple-

mentary rather than primary. A typical patten is employment during the period between leaving school and marriage, withdrawal from the labor force while the children are small, participation in part-time employment while the children are of school age, with the possibility of return to full-time employment after the children are grown.

The occupational expectations for females outlined above are evidently communicated to girls at an early age. They are reflected in the occupational preferences of girls. Girls almost exclusively select occupations considered suitable for women, and relatively few girls aspire to graduate work.

As anticipated, there was a negative association between the number of semester hours of vocational courses and the level of educational aspirations and expectations. However, the association was not large; it was particularly weak for farm boys and girls. The failure of a pattern of vocational education in the high school to dampen the educational aspirations and expectations of many farm students is probably related to the generally high level of educational aspirations and expectations of farm students already noted.

The results failed to support the hypothesis that students in small schools would have lower educational aspirations and expectations than those in larger schools. The explanation for this, in my opinion, is similar to that already suggested with respect to the relatively high educational aspirations of farm boys and girls. Small communities are no longer isolated from the main stream of American life. Radio, television, newspapers, periodicals, the automobile and other forms of modern transportation have largely destroyed the isolation of the small community and removed many, though not all, of its impediments. The school and its curriculum, particularly over a long period, has certainly been a major influence in bringing the farm population and others who reside in small communities into conformity with the dominant contemporary American values. In addition, we should note that very large numbers of the adult urban population are migrants from farms. It is reasonable to believe that continued contacts between them and their kinfolk on farms may have played a major part in the diffusion of urban values and norms.

Farm boys who are planning to farm have relatively high educational aspirations rather than the contrary expectations indicated by the researches of previous investigators. This fact suggests a realization on the part of farm boys who plan to farm that success in modern commercial agriculture requires a substantial education in order to keep up with scientific and technological developments affecting agriculture.

The great majority of boys and girls named an occupation which they would prefer to have when they reach age 30. However, substantial proportions (44.1% of the boys and 32.7% of the girls) failed to name a specific entry occupation in response to the question in the classroom questionnaire "What is the job that you think you will actually have when you start work full-time?" Previous studies by the author in rural Washington have indicated that most rural boys and girls are aware that they will have to migrate from their homes and communities in order to obtain satisfactory employment. Therefore, it seems likely that failure to indicate a specific entry occupation may reflect their lack of familiarity with the employment opportunities they are likely to find when they do move. To some extent, of course, it may also reflect the generally unsatisfactory and imprecise state of knowledge of young people concerning the employment opportunity structure. Many boys and girls may be confused because of the lack of adequate information coupled with half truths concerning the probable impact of technological developments, especially automation, on employment opportunities for unskilled and semi-skilled workers.

The preferences for professional and technical occupations indicated by these rural high school students are quite similar to those found in the nationwide study, *Project Talent,* and in previous studies by the investigator and others. It is apparently normal for high school students in our society to aspire to high level occupations. When we asked students questions that required them to appraise their chances of attaining these high level occupations, many scaled their expectations downward. Yet almost half of the boys and girls who aspired to a professional or technical occupation at age 30 indicated that they thought that they would probably or certainly attain their goal.

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